

STUDIES IN AMERICAN BLATTIDÆ.

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The following notes are the results of an examination of all the undetermined American Blattidæ in the collection of the Academy of Natural Sciences of Philadelphia, and a large amount of material from the United States National Museum. The latter consisted chiefly of the Schild and Burgdorf collection from Costa Rica, and the Palmer and Riley collection from Cuba.

The collections of the two institutions are indicated in the following pages by their respective initials.

The author is indebted to Mr. W. H. Ashmead of the U. S. National Museum for the privilege of studying the material belonging to that institution.

Subfamily ECTOBINÆ.

Genus **ANAPLECTA** Burmeister.

1838, *Anaplecta* Burmeister, Handb. d. Ent., Bd. ii, p. 494. Included *A. minutissima* (De Geer), *lateralis* Burm.; *dorsalis* Burm., and *unicolor* Burm.

Anaplecta flabellata Saussure and Zehntner.

1893, *Anaplecta flabellata* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 29. [Teapa, Tabasco, Mexico; Chacoj, Vera Paz, Guatemala; Bugaba, Panama.]

Two females; Tucurrique and Piedras Negras, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

These specimens belong to the pale form of the species, which has the anal field of the tegmina unclouded and the median transverse bar but slightly marked.

Anaplecta fulgida Saussure.

1862, *A[naplecta] fulgida* Saussure, Revue et Magasin de Zoologie, 2e ser., xiv, p. 163. [Guatemala.]

One male; Piedras Negras, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

This specimen considerably extends the range of the species. Capetillo, Guatemala, being the most southern locality previously recorded.

Subfamily PSEUDOMOPINÆ (*Phyllodrominæ* Auct.).*Genus **PSEUDOMOPS** Serville.1831, *Pseudomops* Serville, Ann. Sci. Nat., xxii, p. 41. Type—*Blatta oblongata* Linnaeus.**Pseudomops oblongata** (Linnaeus).1758, [*Blatta*] *oblongata* Linnaeus, Syst. Nat., x ed., p. 425. ["America."]Two females; San Carlos, Costa Rica. (Schild and Burgdorf.)
[U. S. N. M.]

These individuals are almost identical with specimens from Cuernavaca, Mexico.

Pseudomops discoidalis (Burmeister).1838, *Bl[atta] discoidalis* Burmeister, Handb. der Entom., Bd. ii, p. 498.
[Mexico.]One female; San Carlos, Costa Rica. (Schild and Burgdorf.)
[U. S. N. M.]

This specimen is identical with one from Orizaba, Vera Cruz, except that the tegmina are more blackish. -

Pseudomops crinicornis (Burmeister).1838, *Th[ysocera] crinicornis* Burmeister, Handb. der Entom., Bd. ii, p. 499.
[Para, Brazil.]One female; San Carlos, Costa Rica. (Schild and Burgdorf.)
[U. S. N. M.]**Pseudomops grata** n. sp.Type: ♂; San Carlos, Costa Rica. (Schild and Burgdorf.)
[Cat. No. 6933, U. S. N. M.]Apparently allied to *P. aurantiaca* (Saussure and Zehntner), but differing in the larger size, the longer pronotum and different coloration.

General form elongate, graceful; surface glabrous. Head with the interspace between the eyes but slightly less than that between the antennal bases, and considerably exceeding the long diameter of the eye; eyes subovate, moderately conspicuous; antennae elongate, considerably exceeding the body, heavily plumose in the basal third. Pronotum rather elongate, the posterior width much greater than the anterior; anterior margin truncate, posterior very obtuse angulate, lateral margins expanding posteriorly. Tegmina elongate; anterior margin moderately sinuate, apex rounded; costal nervures numerous (about 13), basal field narrow; discoidal field with the veins longitudinal and seldom forked;

* As a new subfamily name is required for this group I propose the above, based on the oldest genus.

anal field elongate pyriform, the anal sulcus being gently curved. Wings narrow, sub-acuminate; anterior ulnar vein with two branches which originate at or before the middle of the vein. Supra-anal plate produced, at the base expanded into lateral plates which extend over and embrace the bases of the cerci, the central portion extended and apically rotundate. Subgenital plate broad, spoon-shaped, the apex moderately emarginate. Cerci rather long, depressed, acuminate. Anterior femora equalling the coxæ in length, inferior margin in the apical half closely set with spines; tibiæ with the spines on the superior margin distributed in two rows, 2 exterior, 3 interior; metatarsi but slightly shorter than the remaining tarsal joints. Posterior femora slightly shorter than the tibiæ; tibiæ with the spines of the upper surface in three rows; metatarsi half again as long as the remaining joints of the tarsi.

General color pale orange and black. Head orange red; eyes chestnut; palpi black; antennæ with the basal plumose section black, then a band of dull yellow, and the remaining portion black. Pronotum orange red. Tegmina with the basal two-fifths pale orange, the remaining section black. Wings with the portion covered by the light section of the tegmina pale orange, the remainder black, all the tints being weakened by the sub-hyaline character of the wings. Abdomen above black, the supra-anal plate the same color. Under surface orange red; tibiæ, tarsi, apical portions of the femora and apical portions of the anterior coxæ black; trochanters with a blackish spot. Cerci with the basal half black, the apical section yellow.

MEASUREMENTS:

Length of body,	14.5 mm.
Length of pronotum,	5. "
Greatest width of pronotum,	5. "
Length of tegmina,	15.5 "
Greatest width of tegmina,	3.5 "

Genus **PSEUDOPHYLLODROMIA** Brunner.

1865, *Pseudophyllodromia* Brunner, Nouv. Syst. Blatt., p. 111. Type—*P. ornata* Brunner.

Pseudophyllodromia fasciatella Saussure.

1868, *Pseudophyllodromia fasciatella* Saussure, Revue et Magasin de Zoologie, 2e ser., xx, p. 99. [Surinam.]

Seventeen specimens; twelve males, five females; Bartica, British Guiana. April 9–May 23, 1901. (R. J. Crew.) [A. N. S. Phila.]

This series is very uniform in size and coloration.

Pseudophyllodromia peruana (Saussure).

1864, *Bl[atta] Peruana* Saussure, Revue et Magasin de Zoologie, 2e ser., xvi, p. 311. [Peru.]

One male; San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

While agreeing very well in structure with Saussure's description,

this specimen exhibits what appears to be a singular color pattern, which might warrant description.

General color sienna. Head with the eyes and the interspace between the same wood brown; ventral aspect of head dull yellowish; antennæ with the first and second joints yellowish, the remainder black, the two colors gradually merging. Pronotum pale yellowish, marked with two large longitudinal blotches of blackish brown which flank the median bar of the basic color, these being reinforced laterally by a single narrow line of the same tint; lateral lobes pellucid. Tegmina with the basal field, the interspace between the ulnar vein and anal sulcus, and a median space in the anal field pellucid; anterior portion of the marginal field much lighter than the general color and subpellucid. Wings with the costal region infuscate.

***Pseudophyllodromia angustata* (Latreille).**

1811, *Blatta angustata* Latreille, in Humboldt and Bonpland, Rec. d'Observat. de Zoolog., i, p. 146, pl. xv, fig 9. [Houses of Vera Cruz.]

Six specimens; three males, three females; San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

This series is very interesting, and justifies Saussure's association of *venosa* with this species as a synonym.* In the Biologia† Saussure and Zehntner tentatively admitted *venosa* as a species, stating that the differential points were that *venosa* has the ulnar vein of the wing with two branches, and the apical margin of the wing is not or only very slightly infuscate, while in *angustata* "the wings are infuscated on the apical margin and have three ulnar branches." The specimens examined have the ulnar vein with two or three branches, and the apical margin is very slightly or very strongly infuscate.

***Pseudophyllodromia pavonacea* n. sp.**

Type: ♂; Bartica, British Guiana. May 21, 1901. (R. J. Crew.) [A. N. S. Phila.]

This species in general form resembles *P. angustata* (Latreille), but the venation of the tegmina and coloration of the disk of the pronotum are quite different, the former resembling *P. fasciatella* and the latter is similar to *P. peruana*. Relationship also exists with *P. obscura* Saussure from Brazil, and *P. semivitrea* Brunner from St. Vincent. From the former it differs in the unmarked pronotum, and from the latter in the more elongate tegmina, the different markings on the pronotum, and the greater interspace between the eyes. No affinity exists with *P. histrio* Saussure or

* Miss. Scient. Mexiq., Orth., p. 44.

† Biol. Cent.-Amer., Orth., i, p. 47.

P. heydeniana (Saussure), and the closest relationship is undoubtedly with *obscura*. The species described from Grenada, *P. albivervis* Brunner, considerably resembles *pavonacea*, but can be immediately distinguished by the much smaller size.

Size rather large. Head with the interspace between the eyes about half the short diameter of the eye, the interspace between the bases of the antennæ equal to the eye dimension; eyes ovate; antennæ filiform, considerably exceeding the body in length. Pronotum transverse; anterior and posterior margins slightly produced centrally; lateral margins broadly rounded. Tegmina moderately elongate, subequal in width, the apex narrowly rounded; basal field narrow, acuminate; costal nervures fourteen in number; discoidal vein with two apical forks; median vein and its accessory rami parallel with the discoidal; anal field elongate sub-pyriform, containing five nervures, anal sulcus straight for a considerable part of the distal section. Wings rather narrow; costal nervures eleven in number; axillary vein with three additional branches. Subgenital plate acuminate. Cerci short, stout, depressed, and acuminate, supplied with long hairs. Anterior tibiæ considerably shorter than the femora, spines in two rows; metatarsi exceeding the remaining tarsal joints in length. Median tibiæ equalling the femora, spines in three rows; metatarsi half as long again as the remaining tarsal joints. Posterior tibiæ considerably exceeding the femora in length, spines in three rows; metatarsi over twice as long as the remaining articles.

General color wood brown on a base of pale amber color. Head with antennæ plain wood brown. Pronotum pellucid; marked with a median outlined lyrate pattern of black, which carries an additional fine curved black line on the anterior external section, connecting the middle of either arm of the central pattern with its anterior extremity. Tegmina wood brown, the costal, discoidal and anal field finely lined with pellucid; a large rounded spot at the base of the discoidal field is similar in character; basal field pellucid. Wings pellucid, the edge of the costal region suffused with smoky brown. Upper surface of the abdomen reddish brown. Ventral surface including limbs pale brownish, the vicinity of the bases of the spines on the limbs darker brown.

MEASUREMENTS:

Length of body,		12.2. mm.
Length of pronotum,		3. "
Width of pronotum,		4.1 "
Length of tegmina,		11. "
Greatest width of tegmina,		3. "

Genus **ISCHNOPTERA** Burmeister.

1838. *Ischnoptera* Burmeister, Handb. der Entomologie, ii, p. 500. Included *I. gracilis* Burmeister from the Cape of Good Hope, *I. fumata* Burmeister from Brazil, and *I. morio* Burmeister from Colombia.*

* Brunner (Nouv. Syst. Blatt., p. 136) placed *morio* as a doubtful synonym of *pennsylvanica* (De Geer), but on examination of Burmeister's description ("nigra, sublurida; elytris apicem versus fusco-pallidis"), practically nothing is found to warrant such action.

Ischnoptera inaequalis Saussure and Zehntner.

1893, *Ischnoptera inaequalis* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 36, tab. vi, figs, 14-17. [North Mexico and Texas.]

One male; San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

This specimen is somewhat smaller than the male measured by Saussure and Zehntner, but otherwise agrees perfectly with their description. This record considerably extends the range of the species.

Ischnoptera rubiginosa Walker.

1868, *Ischnoptera rubiginosa* Walker, Catal. Blatt. Brit. Mus., p. 121. [Santarem, Brazil.]

Two females; Bartica, British Guiana. May 4 and 7, 1901. (R. J. Crew.) [A. N. S. Phila.]

One of the two specimens examined is slightly larger than the other, but both seem referable to Walker's species. They agree perfectly with his description except that the costal stripe on the tegmina instead of extending "to three-fourths of the length," is very much weakened and indistinct beyond the middle.

Ischnoptera consobrina Saussure.

1862, [*Ischnoptera*] *consobrina* Saussure, Revue et Magasin de Zoologie, 2e ser., xiv, p. 170. [No locality.]

One female; Mexico. [U. S. N. M.]

This specimen is considerably smaller than Saussure and Zehntner's measurements, but is clearly referable to this species.

Ischnoptera jamaicana n. sp.

Types: ♂ ♀; Portland, Jamaica (♀), and Jamaica (♂).

Apparently closest allied to *I. divisa* Saussure and Zehntner,* but differing in the much paler coloration, the more elongate pronotum, and the triangular supra-anal plate. With the numerous West Indian species no close relationship appears to exist. This species belongs to the section of the genus with the medio-discoidal area not exceeding the medio-ulnar in width.

♀.—Size rather small; form elongate-ovate. Head with the interspace between the eyes very broad, but slightly narrower than that between the ocelli, subequal; eyes elongate pyriform; antennae slightly exceeding the body in length; lower portion of face somewhat flattened. Pronotum subtrigonal in outline; anterior margin truncate, posterior margin very broadly rounded, postero-lateral angles

* Biol. Cent.-Amer., Orth., i, p. 40.

rounded; lateral sections strongly deflected, the margins being straight and distinctly corded; upper surface plane, moderately polished. Tegmina elongate, considerably surpassing the abdomen, the greatest width proximal, sutural margin straight; apex sub-acuminate; basal field narrow, slightly exceeding one-fourth of the tegmina in length; anal field acuminate pyriform in outline, anal vein but slightly curved distally. Wings with the costal veins uncurved; ulnar vein bearing three complete and two incomplete rami. Supra-anal plate triangular, exceeding the subgenital plate in length, apex divided. Subgenital plate produced, rounded, broadly notched apically. Anterior femora armed on the anterior margins with four large median spines, the apical section with a series of small spines; posterior margins with two large and two medium spines on the distal portion. Median femora with eight regularly distributed medium-sized spines on the anterior margins, and several small and medium-sized spines irregularly distributed on the posterior borders. Posterior femora armed with five spines on the anterior and four spines on the posterior margins, those on the latter being placed distally.

♂.—Supra-anal plate triangular in outline, the apex rounded. Subgenital plate transverse, somewhat produced centrally and notched; styles short. Cerci elongate, acuminate, somewhat depressed.

General color yellowish brown. Eyes black; antennæ red-brown; margins of the pronotum pellucid. Upper surface of the abdomen blackish brown, strongest laterally, the entire lateral margins being yellowish white.

MEASUREMENTS:

Length of body,	10. mm.
Length of pronotum,	2.9 "
Greatest width of pronotum,	3.7 "
Length of tegmina,	11. "
Greatest width of tegmina,	3.7 "

Ischnoptera sp.

Three specimens; one male, two females; Cabanas, Pinar del Rio, Cuba. (Palmer and Riley.) [U. S. N. M.]

These specimens are so badly broken it is impossible to positively determine them. They appear to approach *blattoides* (Saussure), but differ in wing characters. No relationship exists with any of the other species previously recorded from Cuba.

Genus **BLATTELLA** Caudell.

1839, *Phyllodromia* Serville, Orthopteres, p. 105. [Not of Zetterstedt, 1847.]

1903, *Blattella* Caudell, Proc. Ent. Soc. Wash. v, no. 3, p. 234.

Type. — By elimination and selection, *Blatta germanica* Linnæus.*

It will be seen that the species remaining in the genus are *germanica*, *bivittata*, *supellectilium* and *alternans*. Of these *germanica* can very rationally be selected as the type.

The name *Phyllodromica* Fieber (Lotos, iii, pp. 93-94, 1853), proposed independently, and not as an emendation of *Phyllodromia*, has been generally disregarded. The species he placed in the genus after examination are as follows :

<i>pallida</i> Oliv., . . .	<i>Aphlebia</i> Brunner, 1865.
<i>perspicillaris</i> Herbst., . . .	<i>Ectobius</i> Stephens, 1835.
<i>punctulata</i> Fieb., . . .	(Congeneric with <i>perspicillaris</i> .)
<i>laponica</i> L., . . .	<i>Ectobius</i> Stephens.
<i>sardea</i> Serv., . . .	<i>Aphlebia</i> , 1865.
<i>Megerlei</i> Fieb., . . .	"
<i>marginata</i> Fabr., . . .	"
<i>maculata</i> Charp., . . .	"
<i>decipiens</i> Germ., . . .	<i>Polyzosteria</i> Burm., 1838.
<i>limbata</i> Charp., . . .	<i>Kakerlac</i> Latreille, 1829.

As seen above, *Aphlebia* must give way to *Phyllodromica* Fieber, and of the included species, *punctata* (= *Megerlei*) can well be selected as the type, as Brunner figured this form.

Blattella germanica (Linnæus).

1767, [*Blatta*] *germanica* Linnæus, Syst. Nat., xii ed., p. 688. [Denmark.]

Two specimens; ♂ and ♀; San Jose and Tucurrique, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

Blattella nahua (Saussure).

1868, *Blatta nahua* Saussure, Revue et Magasin de Zoologie, 2e ser., xx, p. 355. [Mexico.]

* The included species of Serville's genus, and the genera into which the eliminated ones were removed are given below.

<i>plicipennis</i> , . . .	
<i>trivittata</i> , . . .	
<i>elongata</i> , . . .	<i>Ischnoptera</i> , 1865.
<i>lateralis</i> , . . .	<i>Pseudomops</i> (<i>Thyrsocera</i>), 1865.
<i>germanica</i> , . . .	
<i>bivittata</i> , . . .	
<i>livida</i> , . . .	<i>Ectobius</i> , 1835.
<i>nigrifrons</i> , . . .	<i>Chorisoneura</i> , 1865.
<i>laponica</i> , . . .	<i>Ectobius</i> .
<i>hemiptera</i> , . . .	<i>Ectobius</i> .
<i>sardea</i> , . . .	<i>Phyllodromica</i> , 1853.
<i>concolor</i> , . . .	<i>Ectobius</i> .
<i>supellectilium</i> , . . .	
<i>alternans</i> ' . . .	

Two specimens; ♂ and ♀ (latter immature); San Carlos and Turrialba, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

In the female the interspace between the eyes is twice the width of that in the male. The only previous exact records for this species are Atoyac, Vera Cruz and Tabasco, Mexico.

Blattella brunneriana (Saussure).

1868, *Blatta Brunneriana* Saussure, *Revue et Magasin de Zoologie*, 2e ser., xx, p. 98. [Mexico.]

One male; Piedras Negras, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

Blattella titania n. sp.

Type: ♂; Bartica, British Guiana. April 24, 1901. (R. J. Crew.) [A. N. S. Phila.]

Allied to *P. brunneriana* (Saussure), but differing in the larger size, the greater interspace between the eyes (two-thirds instead of about one half of the interspace between the antennal bases), the presence of cross nervures in the anal field of the tegmina, the greater number of branches (five instead of three) to the median vein of the same, and the slenderer limbs.

Size rather large; form elongate ovate; surface polished. Head with the interspace between the eyes about two-thirds that between the antennal bases; eyes acuminate pyriform, somewhat prominent; antennæ exceeding the body by about one-half the length of the latter. Pronotum transverse, subovate; anterior and posterior margins truncate, laterals rounded, the postero-lateral angles being obtuse; disk with a transverse shallow depression before the middle; lateral portions hardly deflected. Tegmina elongate, subequal, apex subacuminate; basal field occupying about one-third the total length; median vein with five distinct rami; anal field pyriform, the five nervures contained therein connected by cross-nervures, spurious longitudinal nervures also present between some of the larger nervures. Wings with the costal veins clavate; ulnar vein with five rami. Supra-anal plate sub-triangular, apex entire. Subgenital plate produced, the apex consisting of a rounded tubercle, flanked by a deep but narrow emargination, the lateral margin terminating at this sinus in the form of a blunt tubercle, the appearance of the whole apex being rather tridentate. Cerci moderately long, acuminate, depressed. Anterior femora bearing three median and one apical large spine and a row of small proximal spines on the anterior, and four spines on the posterior margin. Median femora bearing six spines on the anterior, and four on the posterior margins. Posterior femora with four spines on each margin. Posterior metatarsi over half again as long as the remaining joints combined.

General color ochraceous brown. Eyes rich wood brown; disk of the pronotum reddish ochraceous, the lateral portions and anterior margin pellucid. Upper surface of the abdomen pale blackish-brown, the margins of each segment paler.

MEASUREMENTS:

Length of body,	12. mm.
Length of tegmina,	12.2 "
Greatest width of tegmina,	3.5 "
Length of pronotum,	2.9 "
Greatest width of pronotum,	3.6 "

Blattella delicatula Guérin.

1857, *Blatta* (*Phyllodromia*) *delicatula* Guérin, in La Sagra, Hist. l'Île de Cuba, Anim. Artic., p. 346. [Cuba.]

Two males; Cabanas, Pinar del Rio, Cuba. May 18 and 21. (Palmer and Riley.) [U. S. N. M.]

Blattella azteca (Saussure and Zehntner).

1893, *Blatta azteca* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 43. [Teapa, Tabasco, Mexico.]

Male and female; El Yunque, Porto Rico (800 feet elev.). February. (C. W. Richmond.) [U. S. N. M.] Jamaica. [A. N. S. Phila.]

This species has only been recorded from the type locality.

The Porto Rican specimen measures as follows:

Length of body,	9.7 mm.
Length of tegmina,	14.5 "
Greatest width of the tegmina (about),	3.2 "
Length of pronotum,	3.5 "
Greatest width of pronotum,	4.5 "

Blattella festæ (Giglio-Tos).

1898, *B[lat]ta festæ* Giglio-Tos, Boll. Mus. Zool. ed Anat. Comp. Torino, xiii, nr. 311, p. 2. [Gualaquiza, Ecuador.]

One male; Venezuela. [A. N. S. Phila.]

This specimen is referred here with some little doubt, as no trace exists of fuscous markings on the tegmina, which are said to be present in *festæ*, otherwise the specimen agrees perfectly with the latter species. This form is related to *B. alaris* (Saussure and Zehntner).*

Blattella pavidæ n. sp.

Types: ♂ and ♀; Piedras Negras, Costa Rica. (Schild and Burgorf.) [Cat. No. 6934 and 6935, U. S. N. M.]

Allied to *B. vitrea* Brunner,† but differing in the undivided supranal plate of the male, the more acuminate character of the same plate in the female, and in the differently shaped costal region of the wing.

* Biol. Cent.-Amer., Orth. i., p. 43.

† Nouv. Syst. Blatt., p. 109, tab. ii., fig. 8.

This species is possibly identical with the form called *vitrea* by Saussure,* which is apparently not the same as Brunner's species. The form here described is very distinct from the latter.

♂. Form medium build, elongate ovate; surface polished. Head with the interspace between the eyes less than that between the ocelli; antennæ moniform, not of great length. Pronotum transverse subovate, the anterior and posterior margins truncate, the laterals with a very broadly rounded angle; lateral portions somewhat depressed. Tegmina elongate, about equalling the wings in length; basal field not exceeding one-third of the tegmina in length, and the greatest width does not exceed one-fifth the total length of the same field; costal nervures numerous, oblique, parallel, becoming interlaced and ramose toward the apex of the tegmina; discoidal field with the veins generally longitudinal in disposition; anal field elongate pyriform, the apex rounded, the anal sulcus meeting the margin of the tegmina at a right angle, veins little curved, subparallel. Wings with the apex narrowly rounded, the anterior field being separated by a comparatively deep emargination; costal region considerably emarginate basally, the costal nervures about ten in number and very slightly enlarged apically; ulnar vein with four rami, the apical one rather indistinct; axillary vein with three rami. Supra-anal plate broadly triangular, apically produced into a superiorly carinate, rostrate process. Subgenital plate triangular, the apical section bent upwards, styles short, clavate. Cerci very considerably surpassing the anal plates, acuminate. Anterior femora with five median and four apical large spines on the anterior lower margin, the intervening space being filled with minute spines. Median femora bearing seven large spines on the anterior margin.

♀. Size medium; form ovate. Basal area of the tegmina broader than in the male, the length being about two-fifths that of the whole tegmen. Wings with the ulnar vein with five rami, the axillary vein with the same number of branches. Supra-anal plate of the same general shape of that structure in the male. Subgenital plate sub-triangular, the apex truncate. Cerci exceeding the anal plates in length, uniform for the greater part of the length, acuminate apically.

General color pale wood-brown, the disk of the pronotum ochraceous brown, the lateral sections of the latter and the basal field of the tegmina sub-hyaline. Eyes blackish brown. Under surface reddish brown.

MEASUREMENTS:

	♂	♀
Length of body,	12.2 mm.	11.5 mm.
Length of tegmina,	13.5 "	11. "
Greatest width of tegmina,	4.5 "	4. "
Length of pronotum,	3.2 "	3.5 "
Greatest width of pronotum,	4.7 "	4.5 "

Two additional female specimens from the type locality have been examined.

Blattella spectativa n. sp.

Type: ♀; San Carlos, Costa Rica. (Schild and Burgdorf.)
[Cat. No. 6936, U. S. N. M.]

* Miss. Scientif. Mex., Orth., p. 30, tab. i, fig. 8.

Allied to *B acolhua* (Saussure),* but differing in the longer tegmina, comparatively shorter anal area of the same, the more numerous costal veins of the wings, the narrowly emarginate supra anal plate, and the different coloration.

Size rather small; form elongate ovate. Head projecting considerably beyond the pronotum, interspace between the eyes wide, about equalling that between the antennal scrobes; eyes depressed. Pronotum transverse, subovate; anterior margin sub-truncate, the posterior distinctly so, the laterals broadly rounded and somewhat depressed. Tegmina elongate, sub-lanceolate, the apex very narrowly rounded; basal field occupying about one-third the length of the tegmen; marginal field with the veins more distinct toward the costal margin; discoidal vein straight and reaching to the apex of the tegmen; anal field equalling one-third the length of the tegmen, sub-pyriform, anal sulcus broadly curved and not sinuate. Wings with the costal veins ten in number. Supra-anal plate broadly triangular, tumid, the apex narrowly and deeply sinuate. Subgenital plate large, produced, the apex rounded and with a sinus which extends back half the length of the plate. Cerci broad, depressed, exceeding the supra-anal plate (broken). Anterior femora with the apical two-thirds of the anterior lower margin finely spinose, the genicular spine slender. Median and posterior femora with the genicular spines slender, the anterior margins with few or no spines. Metatarsi of the posterior limbs not equalling in length the remaining tarsal joints united.

General color wood-brown, the lateral margins of the pronotum, basal and costal sections of the marginal field of the tegmina pellucid. Vein pattern of the tegmina pellucid on the general tint. Eyes blackish brown; interspace between the eyes with three blackish-brown and two creamy-white transverse bars.

MEASUREMENTS:

Length of body,	10.5 mm.
Length of tegmina,	9. "
Greatest width of tegmina,	2.8 "
Length of pronotum,	2.2 "
Greatest width of pronotum,	3.5 "

Subfamily EPILAMPRINÆ.

Genus **PARATROPES** Serville.

1839, *Paratropes* Serville, Orthopteres, p. 117. Type.—*P. lycoides* Serville.

Paratropes biolleyi (Saussure and Zehntner).

1893, *Paratropa biolleyi* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 60. [Costa Rica; Bugaba, Panama.]

Six specimens; three males, three females; San Carlos and Turrialba, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

The variation in coloration in this series is quite interesting. The central black portion of the pronotum in some cases is confluent

* Revue et Magasin de Zoologie, 2e ser., xx, p. 99.

with the front margin, and in others is separated by a very narrow line of pale yellow, which connects the two lateral blotches of the same tint. The tegmina in some cases have the costal margin with a very distinct black edging, while the majority (four) present practically no trace of it. The full development of the black band is noticed in only one individual.

Paratropes sp.

Four immature females; Ateñas and Turrialba, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

These specimens are too immature to positively determine. The antennæ have a broad annulus of cream, which seems to be absent in the adults of the species examined.

Genus **EPILAMPRA** Burmeister.

1838, *Epilampra* Burmeister, Handb. d. Ent., ii, p. 504. Type.—*E. nebulosa* Burmeister.*

As none have been eliminated from the genus, we may select *nebulosa* as the type, as Brunner has given a good figure of it.

Epilampra azteca Saussure.

1868, *Epilampra azteca* Saussure, Revue et Magasin de Zoologie, 2e ser., xx, p. 356. [Mexico; Cuba.†]

Three specimens; two males, one female; Mexico. [U. S. N. M.]

Epilampra caraíbea Saussure and Zehntner.

1893, *Epilampra caraíbea* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 65. [Cuba.]

One female; Guanajay, Habana Prov., Cuba. May 5. (Palmer and Riley.) [U. S. N. M.]

This specimen agrees perfectly with the original description, except that the pronotum is a trifle smaller.

Epilampra lucifuga n. sp.

Type: ♀; Southern British Guiana. [A. N. S. Phila.]

Allied to *E. verticalis* Burmeister in tarsal characters, but differ-

* The following are the originally included species:

<i>brasiliensis</i> Burm.	<i>nebulosa</i> Burm.
<i>conspersa</i> Burm.	<i>lurida</i> Burm.
<i>cribrosa</i> Burm.	<i>verticalis</i> Burm.

† The Cuban form has since been removed as *E. caraíbea* Saussure and Zehntner.

ing in the much smaller size and very different coloration. The species described by Walker* as *E. aretata* appears to belong to the same group, but has the antennæ as long as the body as well as of a black color. The description is so imperfect that little can be done with it.

Size medium; form ovate. Head with the interspace between the eyes equal to that between the ocelli; eyes strongly depressed posteriorly; antennæ exceeding two-thirds the length of the body. Pronotum sub-pentagonal, the dorsum plane and the lateral margins considerably depressed; anterior margin truncate; posterior margin obtuse-angulate; the greatest width posterior to the middle, and twice as wide as the truncate anterior margin. Tegmina elongate, wide, the costal and sutural margins being parallel for the greater part of the entire length; apex with the sutural margin more emarginate than the costal; basal field equalling one-third of the tegmina in length, narrow; discoidal field with the veins longitudinally disposed; anal sulcus but slightly sinuate, the anal field being elongate, semi-ovoid in shape. Wings with the anterior field narrow, costal veins eight in number, slight, not clavate; anterior ulnar vein with a great number of rami which extend almost to the base of the vein, and become almost parallel to the main vein toward the apex. Abdominal segments with the lateral angles produced into acute spinous processes. Supra-anal plate triangularly produced, the apex narrowly and deeply fissate. Cerci depressed, acuminate, and considerably exceeding the supra-anal plate in length. Subgenital plate very broadly triangular, the apex sub-truncate, the emarginations close to the bases of the cerci broad. Anterior femora with the internal inferior margin with two to five median, one apical and one genicular spine; tarsal joints not equalling the femora in length, the metatarsus not as long as the terminal joint. Median femora with three median spines on the internal and four on the external lower margins; tarsal joints as long as the tibiæ, but not equalling the femora, metatarsus shorter than the other tarsal joints combined, and not quite twice the length of the terminal joint; the lower surface of all the joints, except the terminal joint and a small basal section of the metatarsi, with two longitudinal rows of fine serrations. Posterior femora with three spines on each of the lower margins; tarsi about as long as the femora and about three-fifths the length of the tibiæ; metatarsus equal to the other joints in length; the whole length armed as in the median tarsi, pulvilli small and apical.

General color pale wood-brown, sprinkled with umber. Eyes dark brown, the interspace between the eyes with a transverse arcuate bar of dark brown. Pronotum finely sprinkled with minute specks of the suffusing tint. Tegmina uniformly marked with small indistinct blotches of umber, the median section with four longitudinally disposed small circular dots of this tint. Apical section of the abdomen with a dull indistinct blackish suffusion. Upper surface of the abdomen with the borders of the segments paler than the median section.

MEASUREMENTS:

Length of body,		25.5 mm.
Length of pronotum,		6. "

* Catal. Blatt. Brit. Mus., p. 74.

Greatest width of pronotum,	7.1	"
Length of tegmina,	22.	"
Greatest width of tegmina,	7.1	"

***Epilampra abortivipenna* n. sp.**

Type: ♀; Bartica, British Guiana. May 9 1901. (R. J. Crew.)
[A. N. S. Phila.]

Apparently allied to *E. crassa* Saussure from Mexico, and *E. brevis* Brunner* from St. Vincent; differing from the former in the smaller size, comparatively longer pronotum, the sub-acuminate apex of the tegmina, and in the deeply incised supra-anal plate; from the latter in the different character of the supra-anal plate and the smaller size.

Size medium; form ovate. Head with the interspace between the eyes about equal to that between the ocelli; eyes elongate, pyriform, strongly depressed posteriorly; antennæ not equalling the body in length. Pronotum pentagonal in outline; anterior margin sub-truncate; posterior angle obtuse; lateral portions considerably depressed and with the angles broadly rounded. Tegmina elongate ovate, not equalling the body in length, apex subacuminate, anal sulcus arcuate, very slightly sinuate, anal field less pyriform than usual in the group. Wings short and broad; anterior ulnar vein with rami extending almost to the base. Supra-anal plate triangular, the apex deeply fissate. Cerci exceeding the supra-anal plate in length, somewhat depressed, bluntly acuminate. Subgenital plate slightly produced, rotundate, the apex entire. Anterior femora with the proximal portion of the anterior lower border with five or six large spines, the distal portion with a series of minute spines; tibiæ about three-fourths the length of femora; tarsi with the metatarsus about the length of the remaining joints united, and with its lower surface supplied with two rows of minute denticles. Median femora with the lower surface supplied with three stout spines; tibiæ about equal to the femora in length; metatarsi slightly shorter than the remaining tarsal joints, the lower surface being supplied with two longitudinal denticulate ridges. Posterior femora with the lower margin supplied with three large spines†; tibiæ slightly exceeding the femora in length; metatarsi comprising about three-fifths of the entire length of the tarsi, and supplied on the lower surface with the two denticulate rows present in the metatarsi of the other limbs, pulvilli small and apical.

General color reddish brown, sprinkled with spots of dark umber; pronotum rather uniformly dotted with the deeper color; tegmina with the blotches evenly distributed, the basal section of the principal veins rather strongly marked. Under surface of the body pale ochraceous, the apex of the abdomen reddish brown. Eyes, antennæ and interocular space uniformly blotched with umber.

MEASUREMENTS:

Length of body,	20.	mm.
Length of pronotum,	5.5	"
Greatest width of pronotum,	6.5	"
Length of tegmina,	15.5	"
Greatest width of tegmina,	5.5	"

* Proc. Zool. Soc. London, 1892, p. 203.

† Excluding the apical one, which is rather genicular in character.

Genus **CALOLAMPRA** Saussure.

1893. *Calolampira* Saussure, *Societas Entomologica*, viii, p. 57. Included *gracilis* Br., *heusseriana* Sauss., *brevitarsis* Sauss., and *bispinosa* Sauss. Of these *gracilis* can be selected as the type, as it stands first and is also based on a figure.

Calolampira hamiltoni n. sp.

Type: ♀; Torquino Peak (5800 feet elev.), Santiago Prov., Cuba. April, 1902. (S. H. Hamilton.) [Acad. N. S. Phila.]

Allied to *C. carinulata* Saussure* from Central America, but differing in the much larger size, the subtruncate posterior margin of the pronotum, the different shape of the tegmina, and in the presence of three spines on the posterior margin of the anterior femora.

Size medium; form obese and elongate elliptical in outline. Head extending somewhat beyond the pronotum; vertex broadly rounded and smooth; interspace between the eyes considerably greater than that between the ocelli; eyes rather small, elongate sub-pyriform in outline; antennæ about equalling half the length of the body. Pronotum sub-triangular in outline, the anterior margin narrow and truncate, posterior margin sub-truncate, very slightly sinuate; latter portion depressed, no distinct shoulder present; entire surface very sparsely cribrate. Tegmina not equalling the pronotum in length, apex emarginate, sutural margins contiguous; basal field equalling one-third the width of the tegmen; vein structure imperfectly developed. Wings developed as small paddle-like blades, completely hidden under the tegmina. Abdomen with the dorsal segments bearing longitudinal scar-like folds rather regularly distributed along the margins; ventral segments without such developments. Supra-anal plate produced, rotundate, sub-scabrose; apex slightly emarginate. Cerci depressed, about equalling the supra-anal plate in length. Subgenital plate very large, not extending beyond the supra-anal plate; apex slightly compressed, margin entire. Anterior femora with three spines on the anterior (one subgenicular) and four on the posterior lower margins, genicular spine slender and as long as the tibial spines; tibiæ considerably shorter than the femora; tarsi small and weak, the metatarsi not exceeding the last tarsal joint in length. Median femora with four spines on each lower margin, the apical one on the anterior margin being subgenicular, genicular spine about equal to the femoral and weaker than the tibial spines in size; tibiæ slightly shorter than the femora; metatarsi about equal to the remaining tarsal joints in length, supplied on the lower surface with two longitudinal, closely placed rows of denticles; pulvilli small and apical. Posterior femora with four spines on each lower margin, apical one on the anterior margin subgenicular, genicular spine small and weak; tibiæ slightly exceeding the femora in length; tarsi slender and elongate, metatarsi longer than the remaining tarsal joints, supplied with two longitudinal, parallel and closely placed rows of denticles, pulvilli small and apical.

General colors umber and rufescent. Head with the interocular section, vicinity

* *Revue Suisse de Zoologie*, iii, fasc. 2, p. 347.

of the eyes, labrum and lower portion of clypeus dull ochraceous; eyes gray-brown; face blackish. Pronotum with the median portion blackish, the margins reddish ochraceous speckled with blackish. Tegmina ochraceous closely and evenly speckled with rufescent. Abdomen above gray-brown, closely and densely spotted and blotched with dull blackish brown; ventral surface of abdomen with the median portion of the basal segments gray-brown, the remainder pitch-brown. Limbs dull ochraceous brown marked with amber.

MEASUREMENTS:

Length of body,	21. mm.
Length of pronotum,	6. "
Posterior width of pronotum,	8.1 "
Length of tegmina,	5.5 "
Greatest width of tegmina,	5. "

Three topotypes, all females, have also been examined. One specimen is immature, and has the tegmina and wings undeveloped, but otherwise is much like the type. The coloration varies considerably in the series, but is mainly in the intensity. One specimen is very light and has the characteristic lyrate Epilamproid pattern on the pronotum distinctly visible, while in the type this is hardly discernible.

I have dedicated this species to my friend, Mr. Hamilton, who collected the specimens examined, while attempting the ascent of Torquino.

Calolampra cicatricosa n. sp.

Type: ♀; San Carlos, Costa Rica. (Schild and Burgdorf.)
[Cat. No. 6940, U. S. N. M.]

Allied to *C. gracilis* Brunner* from Australia, but differing in the completely hidden head, the punctate front, the broader supra-anal plate, the slightly emarginate subgenital plate, the longer metatarsi of the posterior limbs, and in the larger pronotum. Some relationship appears to exist with *C. aptera* Schulthess† from Northeast Africa, which is however a quite different insect.

Size medium; form depressed ovoid, apex anterior; surface finely cribose. Head completely hidden under the pronotum; interspace between the eyes considerably greater than that between the ocelli; eyes strongly compressed, the greatest depth anterior; antennæ short, not equalling half the length of the body; ventral surface of the head with the surface strongly cribose. Pronotum produced hemispherical in outline, the anterior margin rounded, the posterior subtruncate, slightly sinuate toward the lateral angles which are rect-acute. Meso- and metanotum with their posterior margins concave, slightly produced

* Nouv. Syst. Blatt., p. 170, tab. iv, fig. 20.

† Ann. Mus. Civ. Stor. Nat. Genova, xxxix, p. 169.

centrally, the lateral angles moderately acute; posterior margins, and also of the pronotum, with a series of longitudinal scars or linear protuberances of an average length of one millimeter. Abdomen strongly depressed; posterior margins of the dorsal segments with scars similar to those on the meso- and metanotum, which become somewhat obsolete toward the apex of the abdomen; ventral segments and subgenital plate supplied with short, erect hairs. Supra-anal plate transverse subrectangulate; posterior margin very broadly arcuate, centrally emarginate to a slight degree. Cerci short, stout, hardly extending beyond the edge of the subgenital plate. Subgenital plate very broad; apex very broadly rounded. Anterior femora with one apical and two basal spines on the anterior inferior border and one apical on the posterior, no genicular spine present; tibiae very short, not over half the length of the femora; metatarsi about equal to the terminal tarsal joint in length. Median femora with one apical and two small centrally placed spines on the anterior inferior margin, and but one apical spine on the posterior, genicular spine present and larger than any femoral and smaller than the tibial spines; tibiae about two-thirds the length of the femora; metatarsi but slightly shorter than the remaining tarsal joints. Posterior femora with three or four spines placed in the distal half of the anterior margin, posterior unarmed and without apical spine, genicular spine larger than any femoral and smaller than any tibial spine; metatarsi longer than the remaining tarsal joints, lower surface with two parallel, sub-contiguous rows of minute denticles, pulvilli on the metatarsi very minute and apical.

General color blackish brown and dull ochraceous scrubbed and intermingled, the lateral borders and the median region, flanking a dark median streak, of the latter tint. Eyes dull gray. Ventral surface of the abdomen blackish brown. Limbs reddish brown, darkest on the tibiae.

MEASUREMENTS:

Total length,	19.5 mm.
Length of pronotum,	6.5 "
Greatest width of pronotum,	9.5 "
Greatest width of abdomen,	13.1 "

As the species of the *gracilis*, *aptera*, *cicatricosa* group appear to be closely related, a key for the separation of some might be of interest. All have been examined except *aspera* Tepper and *depolita* Brancsik (Jahresh. Naturwiss. Ver. Trencsén, xix-xx, p. 57, 1898), the latter not being included in the table, as the description is very incomplete and its position uncertain.

A. Head completely hidden under the pronotum.

B. Front glabrous. Metatarsi of posterior limbs about equal in length to the remaining joints of the tarsi.
cicatricosa Rehn (Costa Rica).

BB. Front punctate. Metatarsi of posterior limbs exceeding in length the remaining joints of the tarsi.
gracilis Brunner (Australia).

AA. Head not completely hidden under the pronotum.

B. Abdomen granulate. Supra anal plate distinctly emarginate. *aspera* Tepper (Australia).

BB. Abdomen not granulate. Supra anal plate not distinctly emarginate.

aptera Schulthess (Northeast Africa).

Subfamily BLATTINÆ (*Periplanetinae* auct.).

Genus **EURYCOTIS** Stal.

1874. *Eurycotis* Stal, Bihang till K. Svenska Vet.-Akad. Handl., ii, no. 13, p. 13. Type.—*Polyzosteria rufocittata* Brunner = *Periplaneta mysteca* Saussure.*

Eurycotis floridana (Walker).

1868, *Periplaneta floridana* Walker, Catal. Blatt. Brit. Mus., p. 135. [St. John's Bluff, East Florida: North America.]

— *Periplaneta semipicta* Walker, Catal. Blatt. Brit. Mus., p. 141, 1868. [St. John's Bluff, East Florida.]

— *Platyzosteria ingens* Scudder, Proc. Boston Soc. Nat. Hist., xix, p. 92, 1877. [Fort Reed, Orange Co., Fla.]

— *Platyzosteria sabalinus* Scudder, Proc. Boston Soc. Nat. Hist., xix, p. 93, 1877. [Sanford, Fla.]

Four females (three immature); El Guama, Pinar del Rio, Cuba. March 5. San Diego de los Banos, Pinar del Rio, Cuba. April 22. 1900. (Palmer and Riley.) [U. S. N. M.]

* As the name *Platyzosteria* Brunner (Nouv. Syst. Blatt., p. 204) has been incorrectly used in relation to *Eurycotis*, I have listed the originally included species of it, and designated the eliminated forms.

melanaria.

atrata.

aterrima.

punctata.

albomarginata.

subaptera.

scabra.

castanea.

nitida, . . . *Melanozosteria* Stal, 1874.

rufocittata, . . . *Eurycotis* Stal, 1874.

mexicana, . . . "

opaca, . . . "

truncata.

Novæ-Seelandiæ.

rufoterminalata.

soror, . . . *Cutilia* Stal, 1877.

ligata, . . . *Cosmozosteria* Stal, 1874.

These specimens do not differ from Florida individuals.

The above synonym appears perfectly correct after an examination of Walker's descriptions. The reduction of *sabalianus* has already been proposed by Blatchley,* the name being based on the immature form, in a condition similar to that on which Walker based his *semipicta*.

Eurycotis fischeriana (Saussure).

1872, *P[lutyzosteria] fischeriana* Saussure, *Mélanges Orthoptérologiques*, iv, fasc., p. 111. [Cuba.]

Three immature specimens; one male, two females; San Diego de los Banos, Pinar del Rio, Cuba. April 22, 1900. (Palmer and Riley.) [U. S. N. M.] Torquino Peak, Santiago Prov., Cuba (5800 feet). April, 1902. (S. H. Hamilton.) [A. N. S. Phila.]

One of these specimens is more advanced than the others, being about in the same condition as the specimens described by Saussure. The other two have the black markings of the upper surface broken and confined to two longitudinal series of blotches on the pronotum, mesonotum, metanotum and tegmina, while the abdominal segments are transversely barred with black.

While quite a few nominal species of *Eurycotis* are known from Cuba, it is quite probable that a large amount of material would show several at least to represent immature stages of other forms.

Genus **PELMATOSILPHA** Dohrn.

1887, *Pelmatosilpha* Dohrn, *Entomolog. Zeitung*, Stettin, xlviii, p. 410. Included *P. praestans* Dohrn and *P. alaris* (Saussure).

Pelmatosilpha coriacea n. sp.

Type: ♀; El Yunque (800 feet elev.), Porto Rico. February. (C. W. Richmond.) [Cat. No. 6939, U. S. N. M.]

Closely allied to *P. marginalis* Brunner † from Grenada, but differing in the broader pronotum, the continuation of the flavous lateral bar on the tegmina, and in the reddish tibiae and tarsi. As the male only of *marginalis* is known, the abdominal appendages cannot be compared.

Size medium; form depressed, sub-ovoid. Head broad, extending somewhat beyond the pronotum; the interspace between the eyes greater than that between the ocelli; eyes compressed, the median section narrower than either the anterior

* A Nature Wooring, p. 217.

† Proc. Zool. Soc. London, 1893, p. 603.

or posterior portions; antennæ slightly exceeding the body in length. Pronotum sub-triangular in outline, surface moderately polished; anterior margin narrow and truncate; posterior margin truncate; lateral margins forming a right angle with the posterior margin and curving gently forward, meeting the anterior margin at a hardly perceptible angle. Tegmina about one and one-third times the length of the pronotum, surface coriaceous; lateral margins parallel, the apical margins emarginate, the apex sutural; veins not apparent and lost in the general coriaceous mass; anal sulcus evenly curved, apparent only toward the sutural margin, which it joins one-third the length from the apex. Wings not quite equalling the tegmina in length. Abdomen with the lateral margins produced into dentiform processes, strongest posteriorly. Supra-anal plate produced, triangular, tectate; apex rather narrowly rotundate emarginate. Cerci hastate, depressed, slightly exceeding the supra-anal plate in length. Subgenital plate triangular, median ridge prominent, basal portion somewhat depressed. Anterior femora with ten spines on the distal portion of the anterior lower margin, the apical one very large, the posterior margin with four distally placed spines, two apical, genicular spine as long as, but more slender than, the tibial spines; tibiæ about two-thirds the length of the femora; metatarsi about equal to the terminal tarsal joint in length. Median femora with the anterior margin bearing eight evenly disposed spines, the apical one exceeding the others in length, posterior margin bearing six rather even spines, genicular spine of a character similar to that of the anterior limbs; tibiæ slightly shorter than the femora in length; tarsi not quite as long as the tibiæ, metatarsi equal to the terminal joint in length. Posterior femora armed with eight spines on the anterior margin, the apical one slightly exceeding the others in length, posterior margin armed with six spines, genicular spine similar in character to that of the other limbs; tibiæ exceeding the femora in length by about one-third the length of the latter, very stout and robust; metatarsi about equal to the remaining tarsal joints in length, lower surface dentate, pulvilli apical, arolia large.

General color mahogany brown; lateral portions of pronotum and tegmina with a bar of brownish yellow, which on the tegmina is blotched with the general tint. Top of head, labrum and clypeus dull yellowish. Eyes narrowly margined with yellow.

MEASUREMENTS:

Length of body,		20. mm.
Length of pronotum,		7.2 "
Greatest width of pronotum,		10. "
Length of tegmina,		10.5 "
Greatest width of tegmina,		7.5 "

Genus **PERIPLANETA** Burmeister.

1838, *Periplaneta* Burmeister, Handb. d. Entom., ii, p. 502. Type.—By elimination and selection, *Blatta americana* Linnaeus.*

* The original species of *Periplaneta* are as follows:

americana.

brunnea.

ustulata.

Australasie.

orientalis, *Blatta* restricted by Latreille, 1802.

Periplaneta americana (Linnaeus).

1788, [*Blatta*] *americana* Linnaeus, Syst. Nat., x ed., p. 424. ["America."]

One male and one female; Luquillo, Porto Rico. March 4, 1900. (C. W. Richmond.) Nuevo Gerona, Isla de Pinos, Cuba. July 1, 1900. (Palmer and Riley.) [U. S. N. M.]

Periplaneta australasie (Fabricius).

1793, [*Blatta*] *australasie* Fabricius, Ent. Syst., ii, p. 7. ["Capta frequens in nave e mari pacifico & regionibus Australasie revertente."]

Eleven specimens; six males (two immature), five females; San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.] El Guama, Pinar del Rio, Cuba. March 5. (Palmer and Riley.) [U. S. N. M.] San Diego de los Banos, Pinar del Rio, Cuba. April 22, 1900. (Palmer and Riley.) [U. S. N. M.]

One specimen from San Carlos bears a very great superficial resemblance to *P. americana*.

Subfamily CHORISONEURINÆ.

Genus **CHORISONEURA** Brunner.

1865, *Chorisonaura* Brunner, Nouv. Syst. Blatt., p. 255. Type.—By selection.*
C. nigrifrons (Serville).

Chorisonenra flavipennis Saussure and Zehntner.

1893, *Chorisonenra flavipennis* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 81. [Atoyac, Vera Cruz, Mexico.]

Three specimens; one male, two females; Turrialba, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

As the female of this species has never been diagnosed, I have appended a description of the same.

Size small; form elongate ovate. Head projecting somewhat beyond the pronotum; interspace between the eyes greater than that between the ocelli; eyes reniform; antennæ reaching to the apex of the tegmina. Pronotum sub-ovate, transverse; anterior and posterior margins rotundate-truncate, lateral margins rounded, the greatest width being posterior; dorsum flat, lateral portions very slightly depressed. Tegmina sub-hastate, apex acute; basal field reaching to the middle of the tegmen, sub-scabrous; discoidal vein practically straight from near the base to the apex, median vein parallel for a greater part the length of the tegmina, median rami comparatively few in number and rather obscure; anal

* The originally included species were:

<i>nigrifrons</i> ,	<i>discoidalis</i> ,
<i>flavoantennata</i> ,	<i>mysteca</i> ,
<i>sordida</i> .	

Of these *nigrifrons* can very rationally be selected as the type, as Brunner gives a figure of this species.

sulcus but little sinuate, the anal field being acute ovoid in shape. Wings with the appendicular field having the angle of insertion obtuse-angulate, coriaceous, apex well rounded; axillary vein biramose. Supra-anal plate transverse sub-triangular, apex with a rather broad V-shaped emargination. Cerci elongate, subequal, somewhat depressed, exceeding the subgenital plate by half their length. Subgenital plate large; apex roundly produced, narrowly and deeply fissate; cercal emargination very marked. Limbs with the genicular spine absent on the anterior femora, well developed on the median and posterior pair; metatarsi of the posterior limbs equal to the succeeding tarsal joints in length.

General color warm sienna, darkest on the pronotum, the proximal portion of the tegmina, the lateral margins of the abdominal segments, the cerci and the head. Lateral portions of the pronotum and the basal field of the tegmina pellucid. Eyes blackish brown. Limbs pale.

MEASUREMENTS:

Length of body,	7.5 mm.
Length of pronotum,	2. "
Greatest width of pronotum,	3. "
Length of tegmina,	7.5 "
Greatest width of tegmina,	2.5 "

Genus **PLECTOPTERA** Saussure.

1864, *Plectoptera* Saussure, Mém. l'Hist. Nat. Mexiq., iv, p. 175. Included species *porcellana* and *poeyi*; as the former is figured, it can justly be regarded as the type.

Plectoptera pulicaria Saussure and Zehntner.

1893, *Plectoptera pulicaria* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 86. [Bugaba, Panama.]

Three female specimens; Turrialba, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

Plectoptera hastifera n. sp.

Type: ♀; Turrialba, Costa Rica. (Schild and Burgdorf.) [Cat. No. 6938, U. S. N. M.]

Closely allied to *P. pulicaria* and *P. circumdata* Saussure and Zehntner, but differing from the former in the more transparent character of the lateral portions of the pronotum, the slenderer tegmina, more hastate axillary field of the wings, and the different coloration; and from *circumdata* in the smaller size, the much more lanceolate axillary field of the wings, and the different coloration of the pronotum.

Size very small; form ovate; surface polished. Head slightly projecting beyond the pronotum; interspace between the eyes considerably less than that between the antennal bases; eyes compressed reniform, the lower face well hollowed to receive the antennæ, which are moniliform, beset with stiff hairs, and slightly exceeding the body in length. Pronotum transverse, sub-rectangular;

anterior margin truncate, posterior slightly rotundate, lateral margins and the angles rounded; lateral portions somewhat depressed. Tegmina lanceolate, the margins parallel, apex acute; basal field rather narrow, extending to the middle of the tegmina; discoidal vein longitudinal, sending off seven costal veins; median vein parallel with the discoidal for the greater part of its length, sending off several indistinct rami; anal sulcus obsolete, anal field occupied by a number of diagonal broken and indistinct nervures. Wings with the appendicular field very large, acuminate, coriaceous, equal to the remainder of the wing in length, the proximal margin truncate; costal veins five in number; medio-discoidal area subequal in width; axillary vein biramose. Supra-anal plate produced, triangular; apex slightly emarginate. Cerci depressed, sub-spatulate, exceeding the supra-anal plate by half their length. Subgenital plate triangular, produced, acuminate, apex very narrowly fissate. Metatarsi of posterior limbs considerably longer than the remaining tarsal joints. Genicular spines present on only the posterior pair of limbs.

General color dull umber. Eyes blackish. Pronotum with the lateral portions pellucid, the remainder of the tegmina lined and dotted with pellucid, the umber forming two evenly placed blotches of solid color along the sutural margin. Wings with the costal margin blackish brown apically; appendicular field pale umber. Limbs pale.

MEASUREMENTS:

Length of body,	5.1 mm.
Length of pronotum,	1.5 "
Greatest width of pronotum,	2. "
Length of tegmina,	4.9 "
Greatest width of tegmina,	1.7 "

Plectoptera picta Saussure and Zehntner.

1893, *Plectoptera picta* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 85. [Atoyac, Vera Cruz, Mexico.]

One female; Tucurrique, Costa Rica. (Schild and Burgdorf.)
[U. S. N. M.]

This record considerably extends the range of this handsome species, as it was previously known only from the type locality.

Subfamily PANCHLORINÆ.

Genus **LEUCOPHÆA** Brunner.

1865, *Leucophæa* Brunner, Nouv. Syst. Blatt., p. 278. Type.—*Blatta maderæ* Fabricius.*

*The following are the originally included species:

<i>surinamensis</i> ,	<i>Pycnoscelus</i> Scudder, 1863.
<i>nigra</i> .	
<i>poecila</i> .	
<i>Maderæ</i>	<i>Rhyparobia</i> Krauss, 1892.

As *nigra* and *poecila* are congeneric with *surinamensis*, Krauss' name *Rhyparobia* is superfluous and must fall.

***Leucophaea maderæ* (Fabricius).**1792, [*Blatta*] *maderæ* Fabricius, Ent. Syst., ii, p. 6. [Madeira.]

Two immature females; Guanajay, Pinar del Rio, Cuba. May 5.
(Palmer and Riley.) [U. S. N. M.]

Genus **PELLOBLATTA** n. gen.

Allied to *Leucophaea* (*Rhyparobia* Krauss) and *Pycnoscelus* (*Leucophaea* auct.). From the former it differs in the form of the tegmina and pronotum (which approach *Pycnoscelus*), the great interspace between the eyes, the spine arrangement and the shorter limbs. From the latter it differs in the more distinct venation of the tegmina, the different character of the head, and the divided supra-anal plate.

***Pelloblatta lata* n. sp.**

Type: ♀; San Carlos, Costa Rica. (Schild and Burgdorf.)
[Cat. No. 6941, U. S. N. M.]

Size rather small; form ovate; surface of the pronotum polished. Head with the interspace between the eyes about equal to that between the ocelli; eyes elongate reniform, centrally compressed; vertex and lower surface of head glabrous. Pronotum transverse heptagonal*; anterior margin truncate, posterior angle broadly obtuse, the posterior lateral faces very short, the anterior lateral faces as long as the true posterior faces; angles all rounded, the lateral antero-posterior angle the most prominent; lateral portion considerably depressed. Tegmina bluntly ovate, rather broad, venation very distinct, apex rotundato-truncate; basal field moderately wide, reaching to the middle of the tegmen; discoidal vein running comparatively close to the costal margin, sending off about ten distinct costal veins; the ulnar vein, closely following the trend of the anal sulcus, sends off about eight parallel rami toward the apex of the tegmen; anal sulcus arcuate; diagonal vein very deeply and widely impressed. Wings with the apex broadly rounded; costal veins ten in number; ulnar vein bearing eight complete and two incomplete rami. Abdomen with the lateral margins of the dorsal segments slightly produced posteriorly. Supra-anal plate broadly rounded, apex triangularly emarginate. Cerci basally very broad, acuminate, slightly depressed, not equalling the supra-anal plate in length. Subgenital plate very broad, the cercal emargination slight, apex with a very shallow and broad emargination. Limbs moderately robust; arolia rather small.

General color sienna. Eyes blackish brown. Tegmina umber, completely edged with, and lined on the anal sulcus with the general tint. Wings with the costal margin and the apical portion of the anterior field suffused with umber.

MEASUREMENTS:

Length of body,	12. mm.
Length of pronotum,	4.5 "
Greatest width of pronotum,	5.5 "
Length of tegmina,	9.5 "
Greatest width of tegmina,	4.7 "

* This type is the usual form in this sub-family.

Genus **PYCNOSELUS** Scudder.

1863, *Pycnoscelus* Scudder, Boston Journ. Nat. Hist., vii, p. 421. Type.—*Pycnoscelus obscurus* Scudder = *Blatta surinamensis* Linnaeus.

Pycnoscelus surinamensis (Linnaeus).

1758, [*Blatta*] *surinamensis* Linnaeus, Syst. Nat., x ed., p. 424. [Surinam.]

Eleven specimens; three females, eight larvæ:

Cuba. (Palmer and Riley.) [U. S. N. M.]

Guanajay, Pinar del Rio, Cuba. April 25. (Palmer and Riley.) [U. S. N. M.]

Habana, Cuba. Aug. 5, 1900. (Palmer and Riley.) [U. S. N. M.]

El Guama, Pinar del Rio, Cuba. April 25. (Palmer and Riley.) [U. S. N. M.]

Cave near Pueblo Viejo, San Juan, Porto Rico. Feb. 17, 1900. (C. W. Richmond and L. Stejneger.) [U. S. N. M.]

Genus **PANCHLORA** Burmeister.

1838, *Panchlora* Burmeister, Handb. d. Entom., ii, p. 506. Type.—By elimination and selection, *P. pulchella* Burmeister.*

Panchlora acolhua Saussure and Zehntner.

1893, *Panchlora acolhua* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 95. [Guerrero, Mexico; Capetillo, Guatemala; Bugaba, Panama.]

Three females; Piedras Negras, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

These specimens belong to the form called *minor* by Saussure and Zehntner.

Panchlora peruana Saussure

1864, *P[anchlora] peruana* Saussure, Revue et Magasin de Zoologie, 2e ser., xvi, p. 342. [Peru.]

Nine specimens; six males, three females; Piedras Negras, Costa Rica. (Schild and Burgdorf.) Cabanas, Habana Prov., Cuba. May 18, 20 and 21. (Palmer and Riley.) [U. S. N. M.]

* The originally included species are as follows:

viridis.

exoleta.

prasina.

pulchella.

surinamensis, *Pycnoscelus* Scudder, 1863.

indica, *Pycnoscelus* Scudder, 1863.

maderæ, *Leucophaea* Brunner, 1865.

Of these *pulchella* can be selected as the type, as Brunner's figure of the genus was based on it.

Panchlora punctum Saussure and Zehntner.

1893, *Panchlora punctum* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 96. [Central America.]

Three females; San Carlos, Costa Rica. (Schild and Burgdorf.) *
[U. S. N. M.] Venezuela. [A. N. S. Phila.]

One of these specimens, that from Venezuela, differs from the others in the interspace between the eyes being greater.

Panchlora hyalina Saussure.

1862, *P[anchlora] hyalina* Saussure, Revue et Magasin de Zoologie, 2e ser., xiv, p. 231. [Guatemala.]

One female; Adjuntas, Porto Rico. April 12, 1900. (C. W. Richmond.) [U. S. N. M.]

This specimen extends the range of this species considerably to the east.

Genus **ACHROBLATTA** Saussure.

1893, *Achroblatta* Saussure, Societas Entomologica, viii, p. 67. Type.—*A. luteola* (Blanchard.)

Achroblatta luteola (Blanchard).

1846,* *Blatta luteola* Blanchard, in D'Orbigny, Voyage dans l'Ameriq. Mérid., vi, p. 215, pl. xxvi, fig. 3. [Santa Cruz, Bolivia.]

Three females; Carillo, Turrialba and Zarzero, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

Genus **ZETOBORA** Burmeister.

1838, *Zetobora* Burmeister, Handb. d. Entom., ii, p. 509. Type.—By elimination and selection, *Zetobora signaticollis* Burmeister.†

Zetobora sublobata Saussure and Zehntner.

1893, *Zetobora sublobata* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 102. [Pantaleon, Guatemala.]

Six specimens; four males, two females; San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

Considerable variation in color is exhibited by this series. The reddish brown bar in the lateral section of the anterior margin of the pronotum varies considerably in width.

* See Sherborn, Ann. and Mag. Nat. Hist., 7th ser., viii, p. 389.

† The originally included species are as follows:

<i>conspurcata</i> ,	.	.	.	<i>Philobora</i> Brnner, 1865.
<i>conspersa</i> ,	.	.	.	<i>Philobora</i> Brunner, 1865.
<i>signaticollis</i> .				
<i>nimbata</i> ,	.	.	.	<i>Phortiaeca</i> Saussure, 1864.
<i>emarginata</i> .				
<i>cicatricosa</i> ,	.	.	.	<i>Phortiaeca</i> Saussure, 1864.

Of the two remaining species *signaticollis* may be selected as the type.

Genus **CAPUCINA** Saussure.

1893, *Capucina* Saussure, Societas Entomologica, viii, p. 67. Type.—*C. cucullata* Saussure.

Capucina cucullata Saussure.

1893, *C[apucina] cucullata* Saussure, Societas Entomologica, viii, p. 67. [Central America.]

Four specimens; two females, two larvæ; Carillo, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

As the larva is undescribed, a short description is appended.

Size medium; form elliptical, strongly depressed; surface scabrous. Head completely hidden under the pronotum; interspace between the eyes considerably less than that between the ocelli; eyes elongate, strongly depressed in the median and posterior portions; antennæ not exceeding half the entire length, basal joint very long, third joint not half the length of the first. Pronotum transverse; anterior and lateral margins broadly rotundate; posterior margin obtuse angulate, the apex not rounded, lateral angles rectangulate; center of the disk with a pair of depressed spaces, and a sulcus extending longitudinally through the center of the pro-, meso- and metanotum. Meso- and metanotum with their posterior margin concave, slightly produced centrally. Abdomen with the lateral portions of the dorsal segments produced posteriorly. Supra-anal plate transverse, with the apical portion expanded, lateral angles rounded, apical margin gently arcuate, centrally with a small V-shaped emargination. Cerci short and broad, half as broad as long, greatest width median, acuminate, somewhat depressed, not equalling the supra-anal plate in length. Subgenital plate transverse, somewhat produced, apex very deeply and narrowly fissate, supplied with two short styles. Arolia rather small.

General color wood brown, darkest on the head, center of the pronotum, mesonotum and metanotum, and pair of longitudinal bars which converge posteriorly and meet at the base of the supra-anal plate. The whole surface, whether light or dark, is irregularly and heavily scrubbed with the opposite tint.

MEASUREMENTS:

Total length,		17. mm.
Greatest breadth,		11. "
Length of pronotum,		6. "
Greatest width of pronotum,		10.5 "

Subfamily POLYPHAGINÆ.

Genus **HOMEOGAMIA** Burmeister.

1838, *Homœogamia* Burmeister, Handb. der Entom., ii, p. 490. Type.—*Homœogamia mexicana* Burmeister.

Homœogamia sp.

One immature specimen; Buenos Ayres, Argentina. [A. N. S. Phila.]

This specimen is too immature to positively identify, but appears to be related to *H. brasiliiana* Saussure.*

* Mém. l'Hist. Nat. Mexiq., iv, p. 228.

Subfamily BLABERINÆ.

Genus **PETASODES** Saussure.

1864, *Petasodes* Saussure, *Revue et Magasin de Zoologie*, 2e ser., xvi, p. 349.
Type.—*Blatta reflexa* Thunberg.

Petasodes pedestris (Serville).

1839, *Blabera pedestris* Serville, *Orthoptères*, p. 83. [Brazil.]

Three females; Jundiaby, Sao Paulo, Brazil. April 12, 1898 and October 9, 1899. (Schrottky.) [A. N. S. Phila.]

Genus **ARCHIMANDRITA** Saussure.

1893, *Archimandrita* Saussure, *Societas Entomologica*, viii, p. 67. Included species—*marmorata* and *deplanata*.

Archimandrita marmorata (Stoll.)

1813, *B[tatta] marmorata* Stoll, *Natuurlijke Afbeeldingen en Beschrijvingen, De Kakkerlakken*, pp. 3 and 14, pl. iid, fig. 5.

One male, two females; Colombia. [A. N. S. Phila.] Nicaragua. [U. S. N. M.]

Archimandrita tessellata n. sp.

Type; ♂; San Carlos, Costa Rica. (Schild and Burgdorf.) [Cat. No. 6941, U. S. N. M.]

Allied to *A. marmorata* (Stoll), but differing in the smaller size and more elongate tegmina.

Size large; form elongate ovate. Head completely hidden under the pronotum; interspace between the eyes but little more than half that between the ocelli, the ocular margins truncate; eyes irregularly reniform, the greatest depth anteriorly; antennæ slightly over half the length of the body, basal joint moderately large. Pronotum transverse ovate, anterior margin evenly arcuate; posterior margin arcuate, but presenting three very blunt and sub-obsolete projections; lateral margins rounded; lateral portions as a whole depressed below the disk of the pronotum. Tegmina ovate, widest in the distal section; apex obtusely rounded; costal and sutural margins very gently arcuate; basal field broad, apparent to beyond the middle of the tegmen; anal sulcus arcuate, the anal field being somewhat elongate hemispherical in shape. Wings elongate, the anterior field very wide, almost equalling the posterior; apex bluntly rounded; ulnar vein bearing eighteen complete rami; posterior field with the apex sub-truncate. Supra-anal plate extensive, transverse, of greater width distally than proximally; the apical margin subtruncate, centrally with a small emargination. Cerci subequal in width, depressed, apex rather blunt, slightly exceeding the supra-anal plate in length. Subgenital plate slightly broader basally than long, apex rotundate, lateral margins emarginate. Anterior femora with three or five median and one apical spine on the anterior margin, posterior margin with one apical spine, no genicular spine present; tibiæ about three-fifths the length of the

femora; metatarsi not equalling the terminal tarsal joint in length, tarsal claws strong, arolia absent. Median femora with only an apical spine on each margin, genicular spine robust; tibiae about equal to the femora in length; metatarsi and the terminal tarsal joint about equal in length, claws robust, arolia absent. Posterior femora with an apical spine present on only the anterior margin, genicular very weak; tibiae exceeding the femora by one-third the length of the latter; metatarsi slightly exceeding the terminal tarsal joint in length, metatarsal pulvilli extending to the base of the joint as a narrow strip, the major portion being apical, terminal joint without distinct pulvilli, claws very robust, arolia absent.

General color ochraceous, blotched and mottled with brownish black and umber. Head with the lower portion of the interspace between the eyes and that between the ocelli brownish black; eyes and antennae dull umber. Pronotum of the general color, the pattern on the disk brownish black, median, not touching the posterior margin, sub-quadrate, the anterior angles acute, the posterior rounded. Tegmina blotched along the distal portion of the discoidal vein with brownish black, the remainder of the tegmina closely mottled with umber. Limbs dull reddish ochraceous, strongest on the tibiae and distal portions of the femora; spines tipped with black; upper surface of the tarsal joints blackish brown.

MEASUREMENTS:

Length of body,	59.5 mm.
Length of pronotum,	16. "
Greatest width of pronotum,	25.5 "
Length of tegmina,	60. "
Greatest width of tegmina,	26. "

Another male from the type locality was also examined.

Genus **BLABERUS** Serville.

- 1831, *Blaberus* Serville, Ann. Sci. Nat., xxii, p. 37. Type.—*Blatta gigantea* Fabricius, the other two originally included species (*biguttata* and *grossa*) being removed to *Monuchoda* in 1838.

Blaberus trapezoidens Burmeister.

- 1838, *Bl[abera] trapezoidea* Burmeister, Handb. d. Entom., ii, p. 516. [Mexico.]

Four specimens; two males and two females; San Carlos, Costa Rica. (Schild and Burgdorf.) [U. S. N. M.]

One female has the tegmen and wing of the left side abnormal. The former is abruptly truncate, and the latter has the posterior field curiously aborted.

Blaberus atropos (Stoll).

- 1813, [*Blatta*] *atropos* Stoll, Natuurlijke Afbeeldingen en Beschrijvingen, De Kakkerlakken, pp. 4 and 14, pl. iid, fig. 8.

One female; Mariel, Pinar del Rio, Cuba. May 11, 1900. (Palmer and Riley.) [U. S. N. M.]

It does not seem possible to differentiate *B. fusca* Brunner* in view of the great variability of this form. In a series of six specimens intergrades are present between the form with the posterior margin of the pronotum truncate and that with the same portion rotundate.

Blaberus cubensis Saussure.

1864, *B[labera] Cubensis* Saussure, Revue et Magasin de Zoologie, 2e ser., xvi, p. 347. [Cuba.]

Two males; Jundiaby, Sao Paulo, Brazil. Jan. 30 and Feb. 17, 1899. (Schroettky.) [A. N. S. Phila.]

Blaberus thoracicus Saussure and Zehntner.

1894, *Blabera thoracica* Saussure and Zehntner, Biol. Cent.-Amer., Orth., i, p. 120, tab. v, fig. 25. [Panama; Bogota, Columbia.]

One female; Nicaragua. [U. S. N. M.]

This specimen is larger than Saussure and Zehntner's measurements, and has the posterior margin of the pronotum more arcuate than in their figure. The exact relationship with *B. posticus* Erichson † is hard to ascertain, as the latter was very imperfectly described.

Genus **BYRSOTRIA** Stal.

1874, *Byrsotria* Stal, Bihang till K. Svenska Vet. Akad. Handlingar, Band 2, no. 13, p. 18. Type.—*Blabera thunbergii* Guérin = *Blatta* (*Blabera*) *fumigata* Guérin.

Byrsotria fumigata (Guérin).

1857, *Blatta* (*Blabera*) *fumigata* Guérin, in La Sagra's Hist. Phys. Polit. et Natur. de l'Ile de Cuba, Anim. Artic., p. 335, tab. 12, fig. 4. [Environs of Havana, Cuba.]

— *Blatta* (*Monachoda*) *thunbergii* Guérin, in La Sagra's Hist. Phys. Polit. et Natur. de l'Ile de Cuba, Anim. Artic., p. 337, tab. 12, fig. 6. [Cuba.]

Eleven specimens; one male, two females, eight immature individuals; Guanajay, Pinar del Rio, Cuba. May 5. (Palmer and Riley.) [U. S. N. M.]

An examination of this material convinces one that *thunbergii* is simply a form of *fumigata*, as Saussure and Zehntner ‡ have already intimated. The male individual agrees perfectly with Guérin's figure of *fumigata* (known only from the male), except that the

* Nouv. Syst. Blatt., p. 376.

† Schomburgk, Reisen in Britisch Guiana, iii, p. 580, 1848.

‡ Biol. Cent.-Amer., Orth., i, p. 121, 1893.

form of the supra anal plate is closer to that of *thunbergii* according to his figure. Another consideration in favor of uniting the two names is that the above-mentioned specimens, representing both forms, were taken at the same locality and on the same day.

Genus **BLAPTICA** Stal.

1874, *Blaptica* Stal, Bihang till K. Svenska Vet. Akad. Handlingar, Band 2, no. 13, p. 18. Included species *Blabera claraziana* Saussure, and *Blatta bipustulata* Thunberg. Of these the former can be selected as the type.

Blaptica claraziana (Saussure).

1864, *Blabera*] *Claraziana* Saussure, Revue et Magasin de Zoologie, 2e ser., xvi, p. 348. [Uruguay.]

Six specimens; three males, three females:

Buenos Aires, Argentina. [A. N. S. Phila.]

Cordoba, Argentina. (Brunner.) [A. N. S. Phila.]

Carcarana, Argentina. (Brunner.) [A. N. S. Phila.]

Rosario, Santa Fé, Argentina. (Brunner.) [A. N. S. Phila.]

Cruz del Eje, Cordoba, Argentina. (Brunner.) [A. N. S. Phila.]

Genus **HEMIBLABERA** Saussure.

1893, *Hemiblabera* Saussure, Societas Entomologica, viii, p. 68. Included species—*H. brunneri* (Saussure), *H. manca* Sauss., *H. capucina* (Sauss.), and *H. granulata* Sauss.

Hemiblabera brunneri (Saussure).

1869, *Blabera Brunneri* Saussure, Revue et Magasin de Zoologie, 2e ser., xxi, p. 113. [Brazil.*]

One female; Nassau, New Providence, Bahamas. 1902. (S. H. Hamilton.) [A. N. S. Phila.]

This is the first record for this species from the Bahaman group.

* This locality is very probably erroneous, as the species has only been recorded from the Antilles since the original description. The unnamed description given by Brunner (Nouv. Syst. Blatt., p. 383) was taken from a specimen from Porto Rico.